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GIANT OTTER PROJECT IN PERU FIELD TRIP AND ACTIVITY REPORT - 2001

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Abstract: The giant otter (*Pteronura brasiliensis*) was uplisted from 'vulnerable' to 'endangered' by IUCN in 2000; habitat destruction in South America currently poses the greatest threat to the species. In 1990, the project 'Status, habitat, behaviour and conservation of Giant Otters in Peru' was initiated by the Frankfurt Zoological Society - Help for Threatened Wildlife (FZS) in order to increase knowledge and national awareness of these unique animals and to develop a comprehensive plan for their conservation in Peru. The progress of the Project has been described continually in the IUCN Otter Specialist Group Bulletin

INTRODUCTION

The giant otter (*Pteronura brasiliensis*) was uplisted from 'vulnerable' to 'endangered' by IUCN in 2000; habitat destruction in South America currently poses the greatest threat to the species. In 1990, the project 'Status, habitat, behaviour and conservation of Giant Otters in Peru' was initiated by the Frankfurt Zoological Society - Help for Threatened Wildlife (FZS) in order to increase knowledge and national awareness of these unique animals and to develop a comprehensive plan for their conservation in Peru. The progress of the Project has been described continually in the IUCN Otter Specialist Group Bulletin (SCHENCK and STAIB, 1992, 1995a, 1995b; SCHENCK et al. 1997, 1999; STAIB and SCHENCK, 1994; GROENENDIJK et al., 2000, 2001).

Manu Biosphere Reserve population census

As in 1999 and 2000, two surveys were carried out in the Manu Biosphere Reserve during 2001, the first in February and the second in October/November. Very heavy rain during February resulted in high water levels in lakes and rivers, thus greatly complicating the locating of otter groups, which tend to leave their core areas and enter small streams, swamps and flooded forest. Therefore, the February census total cannot be usefully compared to those of the first censuses of the previous two years.

Results of Manu Census 1

During the first Manu survey we entered 16 lakes, and investigated the Pinquen River, a tributary of the Manu, only briefly. The total number of different giant otter individuals located was 27, including 1 solitary, with the remainder being members of 4 groups. The largest group numbered at least 8 animals and the average group size was 6.5. The total number of observation hours was roughly 10. A group of 3 animals was recorded on the Manu River itself, one of which was Pepe, first seen in 1999.

Results of Manu Census 2

The second census was carried out towards the end of the dry season when most cubs born during the year are easily observed. Again, the Pinquen River was briefly explored, as well as a total of 24 lakes on the Manu. Total direct giant otter observation time was about 79 hours. Of the 15 lakes where we did not encounter giant otters, 6 showed fresh and/or old signs of their presence. In Cocha Salvador, a unique situation had developed during the course of the year, with a litter being born earlier in the second quarter but leaving only one remaining survivor, and a second litter of no less than 5 cubs having been born shortly before our visit (4th quarter). As far as we are aware, this is the first time that a litter numbering more than 4 cubs has been witnessed in the wild. It was decided not to include the

second litter in the census total since, in all previous surveys, only those cubs that were interacting with the remainder of the group outside the den were recorded. Thus, the total number of different giant otter individuals sighted during the census was 56, of which at least 10 were juveniles, divided into 10 groups, with 3 solitaries. The largest otter groups numbered 8 animals and the average group size was 5.3. If the second Salvador litter is taken into account, we have a group of 13 individuals which is the largest recorded in the 11-year history of the project. Two known otter groups were missed. A pair of otters was encountered on the Manu River itself, successfully identified as Pepe and his mate Doble. Doble's younger sister, Gollum, no longer accompanied them.

Of the 94 different neck markings filmed in Manu since the beginning of 1999, the sex is known of 25 individuals (compared to 14 in 2000 and 6 in 1999), and an additional 9 require confirmation (compared to 9 in 2000 and 3 in 1999).

Small river research: Palma Real and Patuyacu

Two separate surveys were conducted in the Palma Real watershed during the course of 2001, the first in April, and the second in September (at the end of the rainy season and at the height of the dry season respectively). In addition to the Palma Real Grande and Patuyacu rivers, the first survey also included the Palma Real Chico, a small, comparatively short river roughly a third of the total length of the adjacent Palma Real Grande. The background of the study and descriptions of the area are detailed in recent Otter Specialist Group Bulletins (October 2001, April 2000). Briefly, following a preliminary survey in September 1998, a long-term research programme was initiated in 1999 into the ecology and distribution of Giant Otters on small river systems, focussing mainly on the Palma Real watershed, in order to compare results with those collected in the oxbow lakes of the Manu Biosphere Reserve by SCHENCK and STAIB (1999). The findings of the small river research will be summarised and analysed at the end of 2002.

Results of Survey 1 - Palma Real Grande

Giant otters were sighted on three occasions on the Palma Real Grande: the first was of a pair, the second of a solitary individual, and the third again of a pair, one of which was Onyx, an otter first seen in August 2000. However, we could not determine if the two pair sightings were of the same two animals. A total of 11 campsites were recorded of which 7 were fresh. Three fresh dens were also noted.

Patuyacu

On the Patuyacu, giant otters were observed on four occasions: the first and second were both of a single animal. The second observation was of a solitary individual climbing up onto an area recently trampled by giant otters where he sniffed and rubbed his body over the surface (but not sprainting), before entering the water to continue upriver. It is rare to encounter such a relaxed solitary animal on oxbow lakes, let alone small rivers, and it was interesting to observe a solitary marking what may have been a group campsite (although there was no latrine). The third sighting was again of an individual and the fourth was of the resident group of 4 seen emerging from a water body in the forest. The group included Yacu, Timida, and the male Patu, all first seen in August 2000, as well as a single subadult, Suerte, born during the previous year. A total of 15 campsites were recorded, of which 11 were fresh. Three fresh and two old dens were also noted.

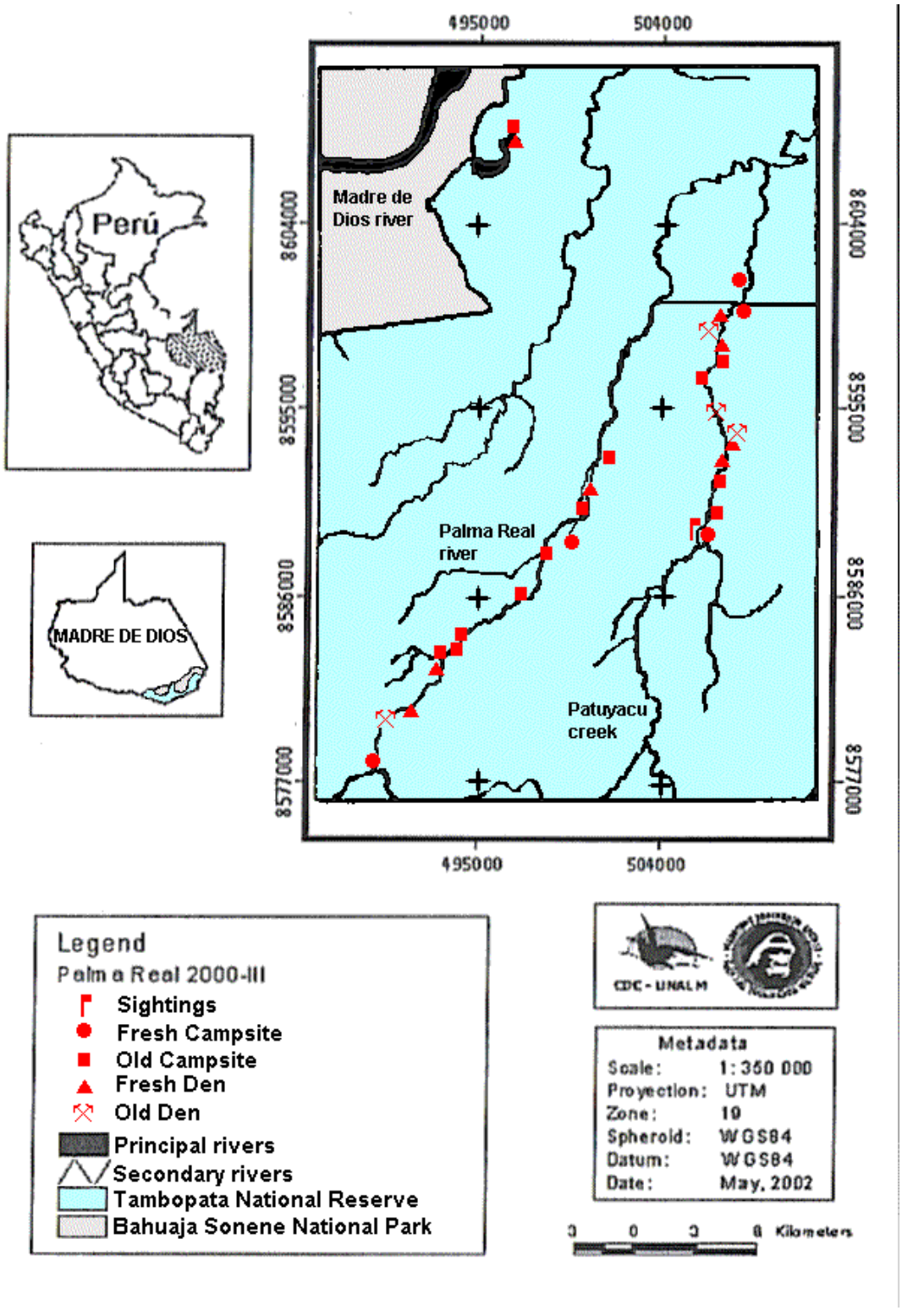

Figure 1. Giant Otter sightings and indirect signs of presence in the Palma Real watershed: August 2000

Palma Real Chico

The water level was very low on the Palma Real Chico and there was much Brazil nut collecting activity, in contrast to the Palma Real Grande where the season had been virtually completed. The Palma Real Chico is characterised by high river banks, a river width averaging 12m, fast flowing water due to a steeper gradient as compared to the adjacent two rivers, and a sandy/gravel bottom. After 5

hours of travel, the width of the river varied between 6 and 10 metres, the banks became floodable, and the surrounding forest was less tall. Approximately 20 Brazil nut concessions are located along the length of the Palma Real Chico. No dens and only 4 old giant otter campsites were found. However, at one location on a sharp river bend, two sets of extremely fresh tracks were found on the bank just above water level, clearly indicating a pair (at least) of giant otters escaping upriver from our presence. We heard the following day that a Brazil nut collector had seen a group of three individuals. It is very likely that giant otters normally frequent the lower reaches of the Palma Real Chico, once the Brazil nut collecting season is over. It is also possible that there is a movement of individuals between the Palma Real Chico and the lower reaches of the Palma Real Grande (below the latter's confluence with the Patuyacu) where gamewardens have reported seeing giant otters but where we have never encountered them or signs of their presence.

Results of Survey 2 - Palma Real Grande

Giant otters were observed twice on the Palma Real Grande; the first sighting was of a single individual, and the second was of a pair, one of which we identified as Real, first seen in September 1998. Its partner was unknown to us. The pair headed downriver and, after a brief while, we followed behind them. Soon after, a Neotropical otter was spotted. A series of observations of both species ensued as we all travelled downriver, during which we were very fortunate in being able to identify the Neotropical otter as male. We eventually arrived at an obstruction of fallen tree trunks in the river. We saw the Neotropical otter swim towards it, then appear on the other side as we peered through the branches. We then spotted another otter also swimming on the other side of the obstruction. Moments later, the Neotropical otter ran up the river bank a short distance, breaking a twig with an audible snap, and then stopped facing the river. The Neotropical otter stood in the same position quietly for about 10 seconds, then ran into the water and continued downriver. The second otter swam upriver towards us, passing within 3 metres of us (only then did we realise it was a giant otter) and showing no alarm behaviour (it was probably well aware of us from the previous encounters). It then submerged and disappeared. If our observations of this giant/Neotropical otter interaction are of characteristic behaviour, then we can assume that Neotropical otters tend to give way to their larger relative and that this may prevent aggressive encounters (at least between adults). Only 4 old giant otter campsites were recorded on the Palma Real Grande, as well as one fresh and one old den (the former also had a scratch wall nearby).

Patuyacu

On the Patuyacu, giant otters were again seen on two occasions; the first sighting was of a solitary individual whereas the second was of a family of 4 individuals identified as Patu, Yacu, Suerte and Timida; the same group as seen in the April 2001 survey. However, our Peruvian assistants reported seeing a single, very small cub born to the family during 2001. This group was discovered to have an underwater entrance to their den, a first in the Project's experience. In total, 6 campsites were recorded of which 2 were fresh, as well as three fresh dens situated close together.

Giant otter diet research

Roberto Quispe, a student at the San Marcos University in Lima, first became involved with the Project in February 2000. His BSc thesis 'Determinación del regimen alimentario del Lobo de Río *Pteronura brasiliensis* mediante el analisis de partes duras presentes en las heces, en la cuenca del Río Palma Real, Madre de Dios, Peru' has since been completed, under supervision of Hernan Ortega of the San Marcos Natural History Museum.

Roberto's objective was to investigate the diet of the giant otter by means of seasonal (wet versus dry) and habitat (lentic versus lotic) comparisons, using hard parts (scales, bony plates, teeth, otoliths and spines) of fish species found in faecal remains collected between July 1999 and February 2000 in the Palma Real River. Moreover, a distinction was made between old and fresh campsites. More than 51,000 items were analysed, the vast majority scales. A reference scale collection was assembled, and the methodology used followed that of KHANMORADI (1994). Roberto hopes to present his conclusions in the OSG Bulletin in the near future.

Lago Sandoval, Tres Chimbadas and Cocococha: survey and management plan progress

Lago Sandoval

In 2001, Lake Sandoval was visited once by the Project, during August. In addition to a solitary individual, which we were unable to identify, the resident family of 7 giant otters was sighted, including 2 cubs. We were fortunate to have seen the group, since tourism operators had reportedly not observed them for anything up to a month. Implementation of the Sandoval management plan (outlined in the April 1999 OSG Bulletin) has progressed slowly but surely. The construction of the Interpretation and Control Centre is currently nearing completion; the observation tower will follow later in 2002. A Sandoval Environmental Education Programme (SEEP) has been initiated, with the aim of organising visits of school children to the lake whilst taking the opportunity to include elements of environmental education as part of their annual curriculum.

Tres Chimbadas

On the 5th of April, we did not encounter the resident group, reportedly of 7 animals, on lake Tres Chimbadas (see the October 2001 OSG Bulletin for background details). A solitary had apparently also been sighted on occasion. On the 24th of August, we returned to the lake, this time observing 5 giant otters hunting along the shore and porpoising in deeper water. The following morning we again sighted the group, now comprising only 4 animals. A small, low-budget tourism lodge has been constructed on the lakeshore, on land owned by a local cattle rancher. Due to poor relations with Rainforest Expeditions (the only other tourism company which operates on the lake), communication between the two tourism entities has been minimal, with the new company expressing little willingness thus far to take the Rainforest Expeditions self-imposed tourism management plan on board. However, he was prepared to listen to the Project's ideas for tourism management and it is hoped that the tourism companies will be able to cooperate better in the future

Cocococha

Cocococha is a 56-hectare oxbow lake situated on the left margin of the Tambopata River, approximately 1 hour upriver by boat from Puerto Maldonado, and then an hour's walk from the river inland. Only one tourism company currently operates on the lake, namely Explorer's Inn., but members of the nearby native community of Infierno fish and hunt there. A family of 6 individuals, including 2 juveniles, was encountered on lake Cocococha in May, as well as in August 2001. A Resident Naturalist, Raphael Notin, voluntarily initiated giant otter monitoring and tourism management on Cocococha in early 2001 with the approval of the lodge owner; subsequently, Raphael Notin has constructed a small hide from which tourists are now able to observe natural giant otter behaviour. The additional steps taken to reduce tourism impact (the catamaran follows a fixed route, and only part of the lake is accessed) have already begun to take effect, with the resident otter group spending more of its time on the lake.

Education - Pepe, the Giant Otter drawing activity

This activity, which was planned for execution in 2000 and which was then only partially carried out, was successfully completed in all three participating Protected Areas during 2001. The main project executor was the NGO Pro Naturaleza, in coordination with local education authorities, assisted in Manu and Pacaya Samiria by INRENA staff in order to reach all target communities.

The activity reached all the planned schools (virtually 100% of schoolchildren in and around Manu and Bahuaja-Sonene) and there was adequate follow-up in all areas. A sign of success is the motivation displayed by both students and teachers during the activity itself, as well as through anecdotal accounts. For example, in the community of Sonene, the children visited the Guacamayo ox-bow lake after the Pepe drawing book activity (as part of the juvenile side neck turtle (*Podocnemis unifilis*) release programme organised by the park authorities) and they happened to see the giant otter group of this lake. Many of these Ese-eja children had never seen giant otters before and therefore became very excited, crying "There's Pepe el Lobo, Pepe el Lobo!". This demonstrates the creation of an

identification link between the children and the animal, essential for the development of conservation awareness.

The activity was felt to be much more effective in those schools where it was integrated into monthly teaching activities (1 hour in the afternoon, 3 days a week, over 1 month) so that the children regarded the book as a relaxing activity and gradually improved their drawing and colour-use imagination. This type of event fires the enthusiasm of many young students, and so an effort must be made to give continuity to such environmental awareness activities. Prizes with giant otter motifs (t-shirts, puppets, etc.) would help to retain the activity in the minds of the children for a longer period.

Other developments

Mercury study

As in 2000, the mercury research was conducted during the October/November Manu census (see the April 2000 OSG Bulletin). Briefly, 10 specimens each of 4 species of fish favoured by the giant otter were sampled in 4 lakes which are seen to represent a possible gradient of mercury contamination; Cochas Huitoto and Capiripa (on the Madre de Dios river, located downriver and upriver of the gold mining area respectively), and Cochas Salvador and Cashu (on the Manu river, located in the Reserved Zone and National Park respectively). All four lakes were inhabited at the time of the census by families of giant otters.

A total of 116 fish tissue samples were collected, as well as 5 samples of fresh otter scat (one in Huitoto, two in Salvador, and two in Cashu). Unfortunately, we were unable to find fresh faeces in Capiripa. Arno Gutleb is kindly facilitating the analysis of all samples for mercury content. Two batches (collected in 1999) have been completed, a third (collected in 2000) is underway, and the fourth is expected to be delivered for analysis in June 2002.

'Friends of the Giant Otter' bulletin

The 'Friends of the Giant Otter' bulletin is becoming increasingly read by the giant otter community; over 200 people in South America currently receive the Spanish version, and an additional 57 receive the English copy abroad (compared to 80 and 25 individuals respectively in 2000). The bulletin is no longer sent by 'snail mail' due to high postage costs. This has permitted more extensive coverage of giant otter activities and it is anticipated that, in 2002, it will be published three times rather than twice. Also in 2002, ways will be sought through which the bulletin might be made more dynamic. Contributions still have to be actively sought by the editor; it is hoped that, gradually, as the bulletin becomes more widely read and better known, people will write voluntarily.

Workshop in Puerto Maldonado

On the 15th of December, a one-day course/workshop 'Research and conservation of the giant otter and ox-bow lakes in the Madre de Dios region' was held in Puerto Maldonado. The aim of this event was to bring together representatives of the protected areas authority INRENA, other local authorities and NGOs, and nature tourism companies, in order to share research findings and work towards a variety of ox-bow lake management models for the area.

The course began with a slide presentation summarising the biology and ecology of the giant otter, with special emphasis on the Madre de Dios population. This was followed by a 45-minute video 'The Wolves of the Manu river - Giant Otters'. Next came a presentation focussing on the threats to the species and its environment, especially alluvial gold mining and associated mercury use. The last presentation before lunch emphasised nature tourism management in giant otter habitats so that tourism serves as a tool for conservation rather than an additional threat. After lunch, participants were separated into groups and presented with three hypothetical ox-bow lakes. Each lake illustrated a different set of biotic and abiotic characteristics and human use patterns. Using the information provided at the course, as well as varied personal experiences and work backgrounds of the participants, each group was asked to discuss, agree upon, and present a management plan for each lake, which would harmonise human activities and giant otter conservation.

Among the participants were the head of Bahuaja Sonene National Park, INRENA personnel, two park guards, two lodge administrators, two lodge owners, and several guides, all of whom clearly felt it had been a valuable experience. The management ideas and plans presented are too varied to be described here but were impressive in their scope. Moreover, each led to a spirited discussion about their respective pros and cons, which served to illustrate that a multidisciplinary approach results in more thoroughly developed management proposals.

Cochas Kamungo and Capiripa

On the journey from Puerto Maldonado to Boca Manu (a village situated at the mouth of the Manu River), we took the opportunity to visit Cocha Kamungo, about which we had heard reports that a group of giant otters was resident. We entered the lake on the 14th of October and encountered a family of 6 animals, including at least one cub. What was most striking about the group was the universal lack of clear throat markings; the most that we could distinguish was an occasional moustache and/or dot. This will greatly complicate future identification.

We spoke with the administrator of the Blanquillo lodge, who manages tourism activity on the lake in order to minimise its impact. Manu tourism operators must book and pay a fee for the privilege of taking the single catamaran out onto the lake, or to climb the 40m observation tower. Both are maintained by the Blanquillo lodge and were established following the example of FZS tourism management implementation in Cochas Otorongo and Salvador in Manu. The tower is a fine example, situated adjacent to an enormous kapok tree with a platform in its branches and a wonderful view over the entire lake. In addition, paths have been opened according to a structured grid system which ensures that any group of tourists spends a considerable amount of time walking within a confined forest space away from the lake shores without coming across another group. The Project has agreed with the Blanquillo lodge owner to continue monitoring the Kamungo otter group and to advise on further possible management initiatives.

On Cocha Capiripa, located on the Madre de Dios river, we observed a family of 5 otters, including two juveniles. Here a single catamaran also operates, under the supervision of a guardian, who lives permanently by the lake and daily records the number of tourists and the name of the accompanying guide. Project leaflets 'Help Protect the Jungle Giant - Giant Otters, a Unique and Endangered Mammal' are given to each tourist. Blanquillo is again the company providing a service to others in a system of cooperation that seems to work relatively well.

Publications

Two Project papers were published in the Proceedings of the International Symposium 'El Many y otras experiencias de investigación y manejo en bosques Neotropicales', held in Puerto Maldonado between the 4th and 7th of June, 2001. Entitled 'Manejo del Turismo de Naturaleza en Habitat de Lobo de Río (*Pteronura brasiliensis*) en el Sureste del Peru' (HAJEK and GROENENDIJK), and 'Monitoreo del Lobo de Río (*Pteronura brasiliensis*) en la Reserva de Biosfera del Manu: Metodología y Resultados' (GROENENDIJK, HAJEK, SCHENCK and STAIB), the papers together summarise two of the most important work areas of the Project, namely tourism management in aquatic habitats and monitoring of the Manu giant otter population.

National distribution maps

Together with the Centra de Datos para la Conservacion (Centre for Conservation Data - CDC) of the La Molina Agrarian University, the project has started a GIS data base and mapping initiative, in order to gather all available giant otter data for Peru and create a first accurate national distribution map for the species. Biologist Sandra Isola has been in charge of commencing this work. So far, all the data for the county of Madre de Dios has been gathered and processed. For this, a standard giant otter data processing form has been created, and linked to Arc View mapping software. It is hoped that this data base is a useful tool for future management decisions concerning the species in Peru, allowing easy access to consistent, clear, temporal and spatial giant otter data. An example of the output can be seen in the attached map.

ACKNOWLEDGEMENTS *- We are grateful to the Frankfurt Zoological Society-Help for Threatened Wildlife (FZS) for their financial support. We would like to thank INRENA, especially the staff and gamewardens of the Manu Biosphere Reserve, the Bahuaja-Sonene National Park and the Tambopata and Pacaya Samiria National Reserves, for their co-operation. Sincere thanks are also due to the San Marcos Natural History Museum, the Peruvian NGO Pro Naturaleza and our Peruvian field assistants..*

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Résumé : Projet Loutre Géante au Pérou: Missions de Terrain et Rapport d'Activités - 2001
La loutre géante (*Pteronura brasiliensis*) a vu son classement IUCN remonter de 'vulnérable' à 'en danger' en 2000; la destruction des habitats constitue la principale menace pour l'espèce en Amérique du Sud. En 1990, le projet intitulé " Statut, habitat, comportement et protection des loutres géantes au Pérou " a été initié par la Societé Zoologique de Francfort - Aide en faveur de la faune menacée (FZS), afin de développer les connaissances et la sensibilisation à ces animaux si particuliers, et mettre en oeuvre un plan global pour leur protection au Pérou. L'état d'avancement de ce projet a été régulièrement détaillé dans les bulletins du Groupe d'Experts de la Loutre de l'UICN (SCHENCK and STAIB, 1992, 1995a, 1995b; SCHENCK et al. 1997, 1999; STAIB and SCHENCK, 1994; GROENENDIJK et al., 2000, 2001)